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RESEARCH

Fragilidade e status funcional de idosos institucionalizados

Fragility and functional status of institutionalized elderly

La fragilidad y el estado funcional de ancianos institucionalizados

Marcella Costa Souto Duarte [1], Ubiraciara Soares de Lima [2], Karla Fernandes de Albuquerque [3], Carla Braz Evangelista [4], Hugo Costa Souto [5], Anna Claudia Freire de Araújo Patrício [6]

ABSTRACT

Objective: investigating the association between fragility in the elderly and the clinical variable functional status. **Method:** a field research, of a quantitative nature, attended by 22 seniors. Data were collected through the Edmonton Frail Scale (EFS), the Katz Index and the Lawton scale and analyzed using SPSS for Windows. The research was approved by the Committee of Ethics in Research, under CAAE 0031.0.470.000-11. **Results:** there was demonstrated that many elderly people had some sort of weakness (63,7%) and presented a good functional ability to performing activities of daily living (41,8%). However, 59% presented some kind of dependence or need for help to the improvement of daily instrumental activities. **Conclusion:** there is a need for a qualified assistance and turned to improvement of quality of life and independence of frail elderly, including in long-stay institutions. **Descriptors**: Aging, Frail elderly, Activities of daily living.

RESUMO

Objetivo: averiguar a associação entre a fragilidade nesses idosos e a variável clínica status funcional. **Método:** pesquisa de campo, de natureza quantitativa, da qual participaram 22 idosos. Os dados foram coletados por meio da Edmonton Frail Scale (EFS), o Índex de Katz e a escala de Lawton e analisados no SPSS for Windows. A pesquisa foi aprovada pelo Comitê de Ética em Pesquisa sob CAAE n° 0031.0.470.000-11. **Resultados:** evidenciou-se que grande parte dos idosos possuía algum tipo de fragilidade (63,7%) e apresentava boa capacidade funcional para realização das atividades de vida diárias (41,8%). No entanto, 59% apresentavam algum tipo de dependência ou necessidade de auxílio para realização das atividades instrumentais diárias. **Conclusão:** há necessidade de uma assistência qualificada e voltada para melhoria da qualidade de vida e independência dos idosos fragilizados, inclusive nas instituições de longa permanência.**Descritores:** Envelhecimento, Idoso fragilizado, Atividades cotidianas.

RESUMEN

Objetivo: determinar la asociación entre la fragilidad en ancianos y la variable clínica de estado funcional. **Método:** investigación de campo, de naturaleza cuantitativa, a la que asistieron 22 personas mayores. Los datos fueron recolectados a través de la Edmonton Frail Scale (EFS), el Índice de Katz y la escala de Lawton y analizados utilizando el programa SPSS para Windows. El estudio fue aprobado por el Comité de Ética en Investigación, CAAE n° 0031.0.470.000-11. **Resultados:** se demostró que muchas personas de edad avanzada tenían algún tipo de debilidad (63,7%) y presentaba una buena capacidad funcional para realizar actividades de la vida diaria (41,8%). Sin embargo, el 59% tenía algún tipo de dependencia o necesidad de ayuda para realizar las actividades de la vida diaria. **Conclusión:** hay una necesidad de un personal calificado y orientado a mejorar la calidad de vida y la independencia de la asistencia a los ancianos frágiles, incluso en instituciones de larga estadía. **Descriptores:** Envejecimiento, Anciano frágil, Actividades cotidianas.

[1]Nurse, Master Teacher, School of Nursing, University Center of João Pessoa/UNIPÊ. João Pessoa (PB), Brazil. E-mail: marcellasouto@hotmail.com; [2]Nurse, João Pessoa (PB), Brazil. E-mail: us54589@gmail.com; [3]Nurse, Coordinator, Master Teacher, School of Nursing, University Center of João Pessoa/UNIPÊ. João Pessoa (PB), Brazil. E-mail: enfermagem@unipe.br; [4]Nurse, Masters' Student of PPGENF. João Pessoa (PB), Brazil. E-mail: carlabrazevangelista@gmail.com; [5]Physical Educator. João Pessoa (PB), Brasil. Email: hcsouto@gmail.com; [6]Nurse, Masters' Student of PPGENF. João Pessoa (PB), Brazil. E-mail: claudia.freirearaujo@gmail.com

INTRODUCTION

Population aging is a global phenomenon that has caused a number of social, cultural, financial, and institutional and in different contexts of health care. The increase in the elderly population is a response to reduced fertility, mortality and increased life expectancy.[1-3] However, the certainty of the growth of this population segment is being accompanied by the uncertainty of the conditions of care that will experience the oldest.[1]

Elderly rush on intrinsic changes that favor the emergence of diseases and can lead to disabilities, increasing the need for specialized care in performing daily activities.[1]These disabilities may be associated with weakness.

Weakness is a multidimensional and multifactorial disease that involves a biological, psychological and social interaction, which leads to increased vulnerability and risk of functional decline, falls, hospitalizations, institutionalization in nursing homes and long term care homes and can even lead to risk of death.[2,4] In the biological context, the fragility of the resulting reductions reserves in physiological and the capacity to maintaining homeostasis and the elderly who are more vulnerable to environmental stress situations; therefore, a greater risk of adverse health outcomes.[5]

The syndrome in question has serious health complications in the elderly[6] and among the signs and symptoms that can identify it stands out, from the loss of unintentional weight, fatigue, weakness, reduced gait speed and balance, decreased strength of hold and low levels of physical activity.[2,7] In respect of their fundamental detection for the development of preventive measures to providing a better quality of life.[8]

However, fragility is still a disease difficult to detect, which requires quality care and greater attention from health professionals[6], both in hospital as well as in long-stay institutions for the elderly (LTCF).

The ILPI are considered collective homes that house independent seniors who have economic difficulties and/or family need and dependent elderly assistance to carry out daily activities, requiring long term care. In addition to housing, these spaces, they offer food, clothing, medical services and medicines for aging population.[3]

The environment of long-stay institutions for the elderly (ILPS) should encourage and provide a set of actions that allow the elderly to remaining active.[9] However, this house mode provides social isolation, mental and physical inactivity, resulting in decreased quality of life, stimulating the functional dependence, undermining the autonomy of their residents[10], which brings the need for a qualified and attention on improving the quality of life of the elderly.

As the elderly may show frailty and dependence to performing activities; studies assessing the fragility and the functional capacity of older people are of paramount importance, because they detect their level of dependence directing for more effective

management. These studies trace the profile and the limitations of this public, facilitating decision-making with regard to the interventions required for each context.

Nevertheless, studies on the incidence, prevalence and factors associated with frailty in the elderly, at the national level are scarce, which is why you need to evaluate these aspects between the senescent, especially those living in long term care facilities. Thus, these findings may contribute to fill gaps related to the lack of empirical data about the fragility and the improvement of health care provided to institutionalized elderly in particular for the care of nursing.

Given the thematic relevance, the research in question sought to find answers to the following question: Clinical variable functional status is related to the fragility of the elderly?

Thus, to identifying this reality on the ground in a population-based study conducted in the local scenario, there was defined for this investigation the following objective: determining the association between the fragility of the elderly and the clinical variable functional status.

METHOD

A search field, quantitative, whose research scenario was a long-stay institution for the elderly, located in the city of João Pessoa/PB. The population consisted of elderly people who lived in that institution (fifty-seven) and the sample consisted of twenty two, defined from the following inclusion criteria: age less than 60 years old; be in the ILP said at least three months ago; be physically fit and psychologically to be interviewed by the researcher; and accept participate.

Data collection occurred from February to March 2012, using three instruments: Edmonton Frail Scale (EFS), Katz index, and the Lawton scale.[11-13]

The SAI evaluates and ranks the weakness in the elderly through scores: zero to four does not indicate weakness; five to six means vulnerability; seven to eight light fragility; nine to ten moderate frailties; 11 or more severe weakness. The maximum score achieved in the scale is 17.[11]

The Katz index evaluates the Basic Activities of Daily Living, namely independence in the performance of six functions (bathing, dressing, toileting, transferring, continence and feeding), classifying the elderly as independent or dependent.[12]

The Lawton Scale measures the instrumental activities; such as: using the telephone, going to distance places using a means of transportation, shopping, cleaning the house, washing clothes, preparing meals, taking medications and managing money.[14]

The empirical material was analyzed using the SPSS (Statistical Package for the Social Sciences) for Windows, version 15.0. The data are shown in frequency and percentage. A 5% significance level for the chi-square test comparing fragility score with Lawton Scale was considered.

The research was appreciated and approved by the Research Ethics Committee of the University Center of João Pessoa, according to CAAE No 0031.0.470.000-11, being considered the ethical aspects related to research with human subjects, arranged in Resolution 466/2012 of the National Health Council, effective at the time.[15] Who agreed to participate signing a Consent Agreement and Informed - IC - aware that their participation in the study was spontaneous, since they were not required to do so.

RESULTS AND DISCUSSION

The study sample consisted of 22 elderly, 77,3% (17) were female. The female is more likely to develop chronic and disabling diseases, which is one of the contributing factors for institutionalization. The level of dependence is higher in women[16], and can be explained by differential mortality by sex, increased demand for health care, mortality by men due to violence and traffic accidents.[17]

This study found that 63,7% of respondents elderly frailty, whether mild, moderate, or severe, as shown in Table 1, which evaluates the weakness in the elderly.

Table 1 - Distribution of the elderly according to the score of fragility based on Edmonton Frail Scale. João Pessoa, PB, 2012 (n=22).

Score fragility	N	%
Did not present fragility	3	13,6%
Apparently vulnerable	5	22,7%
Light fragility	6	27,4%
Moderated fragility	5	22,7%
Severe fragility	3	13,6%
TOTAL	**22**	**100%**

* Source: Research data, 2012.

It is noticed that the weakness is installed on ILPI scenario, since only 13,6% (3) of the elderly did not show the weakness.

Importantly, other studies also show a low percentage of institutionalized elderly and hospitalized without brittleness. A study in Fortaleza/CE showed that, from the 54 elderly residents of a LTCF, only 3,7% of the sample did not show any of the fragility levels.[18] Study including 99 elderly patients admitted to a hospital in the city of Passo Fundo/RS showed 46% (46) of the sample were considered weak and only 4% (4) did not show fragility.[19]

In a research conducted with 50 elderly caregivers, the elderly showed that the minority had no weakness (28%) and even though only 18% show frailty, most seniors were considered pre-frail (54%), demonstrating the high risk of these participants for the development of brittleness.[20]

The identification of the elderly with weak or fragile pre-directs to the development of preventive measures and for appropriate care, increasing the chances of reducing the possible risk factors.[8,21]

Considering the high prevalence of frailty in the elderly, there is an urgent need for early detection, in order to minimizing the impact on quality of life, functional independence and autonomy of the same[21], and preventing the progression of the clinical picture and diminishing the appearance of complications and the number of (re) hospitalizations.[19]

For this it is necessary to involve an interdisciplinary team oriented to identifying, intervening and solving the problems related to the disease, through a work aimed at rehabilitation, promotion and health education, contributing to improvement of health conditions old.[8]

Table 2 shows the relationship between frailty and functional status of elderly people surveyed in the performance of daily life activities (BADLs) by Katz scale.

Table 2 – Distribution of elderly according to fragility and performance in Activities of Daily Life. João Pessoa, PB, 2012 (n=22).

Score fragility	Score Katz					
	Dependent on all the 6 functions		Independent in 5 functions and dependent in 1 function		Independent	
	N	%	N	%	N	%
Did not present fragility	-	-	-	-	3	13,6%
Apparently vulnerable	-	-	1	4,5%	4	18,2%
Light fragility	-	-	-	-	6	27,4%
Moderated fragility	1	4,6%	3	13,7%	1	4,5%
Severe fragility	-	-	1	4,5%	2	9%
Total	1	4,6%	5	22,7%	16	72,7%

* Source: Research data, 2012.

Through the Katz score it was observed that most of the respondents have a good functional capacity to performing daily activities, since 72,7% proved to be independent and 22,7% had up to 5 independent of the six functions of the proposed scale. Among non-frail elderly, all were independent.

Also in relation to independent seniors, 4 (18,2%) were apparently vulnerable and 41,8 had some type of weakness. Of these, 6 (27,4%) had mild weakness, 1 (4,5%) moderate frailty, and 2 (9%) severe weakness. These data demonstrate that the level of fragility did not influence the functional capacity of the elderly respondents. However, the frail elderly showed higher dependence on BADLs compared with healthy elderly.

It is noteworthy that only one respondent met dependent functions and the six had moderate weakness.

A research conducted in Itauna/MG showed that institutionalized elderly had a higher incidence of limitations BADL. From the 75 subjects, 23% were independent in the six functions, 77% had some dependence and 12% dependent in all its functions.[22] A study conducted in Maceio/AL found that of the 62 seniors who participated in a study, 29% were considered independent for the performance of activities of daily living[23], namely a lower part.

According to authors, the limitations in the performance of BADL or those related to mobility, necessary for independent living and autonomy, comprise one of the implications

of fragility that produces greater consequence on the lives of the elderly and their families.[24]

Dependence is not a permanent state, permeates trajectories that influence its evolution and may be modified, prevented and/or reduced. Therefore, we suggest the existence of qualified services and committed to the proper care of the elderly. Care needs include the Basic Activities of Daily Living, once committed, prevents self-care.[22] Thus, the odd factor to maximize the functions of the elderly is to stimulate their physical, mental and behavioral skills.

This study examined the association of frailty in the elderly and the performance of Instrumental Activities of Daily Living (IADL) and sets out in Table 3.

Table 3 – Distribution of elderly according to fragility and performance in Instrumental Activities of Daily Living. João Pessoa, PB, 2012 (n=22).

Fragility score	Lawton						P
	Dependent		Need of help		Independent		
	N	%	N	%	N	%	
Does not present fragility	-	-	-	-	3	13,6%	
Apparently vulnerable	1	4,6%	4	18,2%	-	-	0,004*
Light fragility	3	13,6%	2	9,1%	1	4,6%	
Moderate fragility	2	9,1%	3	13,6%	-	-	
Severe fragility	3	13,6%	-	-	-	-	
Total	9	40,9	9	40,9	4	18,2	

* Source: Research data, 2012.
** p < 0,05 (Chi-square test).

The data showed significantly statistical association (p = 0,004) when crossing the results of fragility, measured by the Edmonton Frail Scale and dependency in performing IADL the Lawton scale. Dependence or need for help was present in most of the respondents with frailty (59%), which may have influenced the performance of the commitment in Daily Life Instrumental Activities. However, a significant number of participants vulnerable 5 (22,8%) were dependent or partially dependent to some. Only 4,65 of the frail elderly (mild weakness) were independent.

This correlation can be understood due to the fragility have complex interactions of biological, psychological and social factors that predispose to a state of greater vulnerability, leading to situations of dependency.[25]

It has been found that even four independent elderly, one had mild weakness characteristics may progress to a more critical state of health also need to look directed preventive care in search of inhibiting developments of dependency ADL, stimulating or at least retaining the existing autonomy.

Among non-frail elderly, 100% were independent. Similar findings were found in a study conducted in the city of Ribeirão Preto, in which 98,9% of the elderly without fragility showed no dependence.[21]

It should be noted that in the study [26], the dependence on an instrumental activity generated a chance to 1,59 instead of the elderly are pre-frail and 2,17 times to be fragile. Thus, from the inability to predict the reduction in walking speed, there has been

highlighted in importance and frequency[27]; and was the item of the most consistent phenotype in the study[21],presenting in over 80% of the frail elderly. Therefore, researchers have suggested that the start of the fragility syndrome affects more complex activities and to a lesser extent the simple and routine.[28]

On the national scene, results of studies, some large, multicenter character, describing the prevalence and other characteristics of fragility, begin to be published and debated. These investigations would be evaluated potential applications of the concept of fragility in our context, both from a clinical point of view and in terms of public health[29]. Thus, it is imperative to point out that the promotion and maintenance of functional status in elderly result in better quality of life and a more successful aging.

CONCLUSION

The study made it possible to determining the association between the fragility of the elderly and the clinical variable functional status. This contributed to a deeper analysis of epidemiological aspects and factors related to fragility.

In this sense, the present study showed a higher quantity of frail elderly and of female sex, and confirmed the correlation of ADL and IADL with fragility, which demonstrates the need for greater attention to that old by a qualified and focused assistance to promoting independence and improving their quality of life.

The characteristics of the elderly in this study also highlight the need for improvement of public policies directed to the elderly, through actions that minimize their weaknesses, enhancing the biopsychosocial well-being.

Therefore, these results can collaborate with health professionals, especially nurses, for the construction of preventive measures, as well as the fragility event screening for the elderly in order to preventing or reducing the incidence of disability in the elderly.

It should be noted that the fragility and associated factors, when discovered previously, may also contribute to early intervention, and for focused assistance to the patient's needs, so you can avoid complications. Therefore, you need to qualify professionals working in ILPS, once one realizes that these are not prepared to identifying and dealing with the fragile and dependent patients, despite these sites possess considerable amount of elderly frailty, dependence, or both, as well as was evidenced in the research.

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Contact of the corresponding author:
Marcella Costa Souto Duarte
Centro Universitário de João Pessoa/UNIPÊ. João Pessoa (PB), Brasil.
E-mail: marcellasouto@hotmail.com